



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:
Bobbie Joe Bowden

Serial No: 08/050,527

Filed: April 19, 1993

For: AUTOMATIC DRILLING SYSTEMS

§ Atty. Docket No:
§ B-0106.01

§ Examiner:
§ F. Tsay

§ Group Art Unit:
§ 2506

AMENDMENT "A"

COMMISSIONER OF PATENTS
AND TRADEMARKS
Washington, D.C. 20231

Sir:

Applicant timely responds to the Office Action Dated March 11,
1994, as follows:

IN THE CLAIMS:

Please add the following new claims:

515. The automatic drilling system according to claim 1
wherein said drilling fluid pressure regulator, comprises:

a Bourdon tube coupled to said drilling fluid pressure
sensor to measure changes in drilling fluid pressure;

a flapper coupled at one end to said Bourdon tube wherein
said flapper pivots about a pivot point in response to changes
in drilling fluid pressure measured by said Bourdon tube; and

means responsive to the pivoting of said flapper for
outputting to said relay a signal representative of changes in
drilling fluid pressure.

516. The automatic drilling system according to claim 2
wherein said bit weight regulator, comprises:

a Bourdon tube coupled to said bit weight sensor to
measure changes in bit weight;

a flapper coupled at one end to said Bourdon tube wherein
said flapper pivots about a pivot point in response to changes
in bit weight measured by said Bourdon tube; and

means responsive to the pivoting of said flapper for
outputting a signal to said relay representative of changes in
bit weight.

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